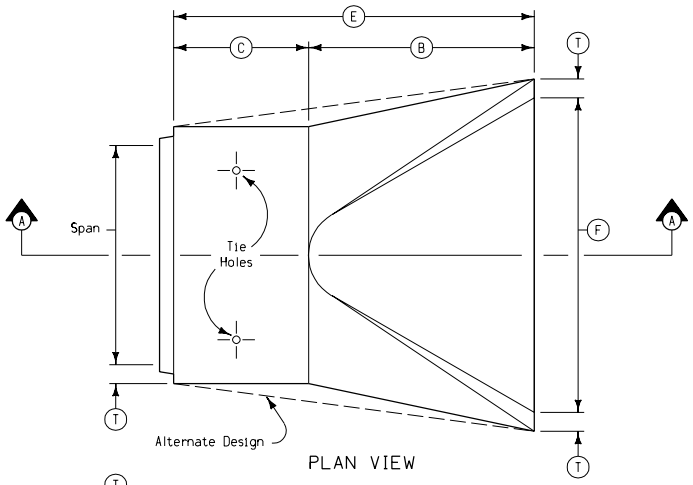
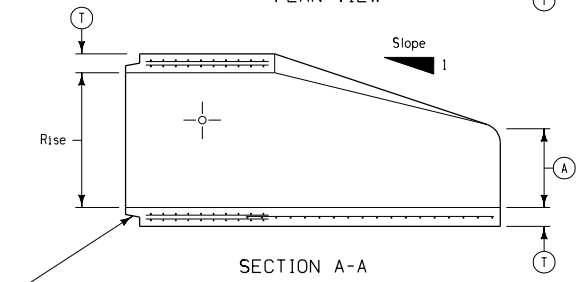
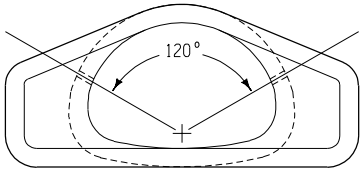


PLAN VIEW



SECTION A-A



END VIEW

Tongue end on inlet end section. (1)
Groove end on outlet end section.
(Inlet end section shown.)

GENERAL NOTES:

Details on this sheet indicate typical requirements for concrete arch aprons. Reinforced concrete arch pipe shall conform to the requirements of AASHTO M 206M for Reinforced Concrete Arch Culvert Storm Drain and Sewer Pipe. Design of the barrel portion of the apron shall conform to, or exceed, the requirements for class III (100 D) pipe. Where class II (75 D) pipe is specified, aprons meeting the requirements for class II (75 D) pipe may be furnished. Reinforcement of the flared portion of the apron shall be as indicated in AASHTO M 206M or as otherwise approved by the Engineer.

Materials and methods of construction shall be in accordance with current Standard and Supplemental Specifications.

Fabrication of aprons shall conform to requirements of current specifications for "Concrete Pipe Culverts". Dimension "E" shown is minimum and shall be considered the design length. Any difference between the actual length of concrete apron installed and the length indicated hereon shall be appropriately adjusted for the length of concrete culvert pipe furnished.

Tie bolts and bolt holes are necessary only when specifically required in detail project plans.

Structural concrete used for concrete aprons shall contain air entrainment in accordance with Article 2403.03 Paragraph B of the Standard and Supplemental Specifications.

Alternate designs for concrete aprons may be submitted for approval. Welded wire fabric shall meet the requirements of ASTM A 185.

Refer to appropriate other Standard Road Plans as well as project plans for additional details of individual culvert installations.

Price bid for "Concrete Arch Aprons" of the size specified shall be considered full compensation for fabrication and installation of concrete aprons as detailed hereon.

(1) Dimensions for tongue and groove connections shall be as indicated on Standard Road Plan RF-41.

Nominal Dimensions Span x Rise mm	Equivalent Dia. mm	Mass per Section kg	Span mm	Rise mm	Slope	Approximate Dimensions mm					
						(T)	(A)	(B)	(C)	(E)	(F)
560 x 345	450	500	560	345	3 : 1	60	175	685	1145	1830	915
725 x 460	600	790	725	455	3 : 1	90	215	990	835	1830	1220
920 x 570	750	1500	920	570	3 : 1	100	240	1270	1170	2440	1525
1110 x 675	900	1970	1110	675	3 : 1	115	280	1525	915	2440	1830
1300 x 795	1050	2380	1300	795	3 : 1	115	400	1525	915	2440	1980
1485 x 915	1200	2900	1485	915	3 : 1	125	530	1525	915	2440	2135
1650 x 1015	1350	3560	1650	1015	3 : 1	140	650	1525	915	2440	2285
1855 x 1145	1500	4300	1865	1145	3 : 1	150	785	1525	915	2440	2440
2235 x 1370	1800	6150	2235	1370	2 : 1	180	785	1525	990	2515	3050
2590 x 1575	2100	8140	2590	1575	2 : 1	205	725	2110	485	2590	3660

All dimensions given in millimeters unless noted.

M METRIC VERSION

Iowa Department of Transportation
Project Development Division

STANDARD ROAD PLAN **RF-42**

REVISION: Metric conversion of Standard Road Plan Rf-42 no. 1 (dated 6-15-93).

REVISION NO. 1

Davis D. Ruth 11-18-94
APPROVED BY DESIGN METHODS ENGINEER

REVISION DATE 03-28-95

CONCRETE ARCH APRONS